

REMARKS

Claims 1-17 were previously rejected under 35 U.S.C. 102(b) as anticipated by Nakagawa et al. (WO-99/43719). The rejection was originally set forth in paragraph 2 of the previous Office Action dated February 14, 2007. In addition, the Examiner now refers to example 3 in the reference, where polymerization is conducted in two stages, i.e., involves initial formation of a polymer of bromo-terminated n-butyl acrylate, and polymerizable double bond is then incorporated at the terminal of said vinyl polymer to form methacryloyl terminated poly(butyl acrylate).

Claims 1-11 and 16-17 were previously rejected under 35 U.S.C. 102(b) as anticipated by Nakagawa (EP 1 000 954 A1). The rejection was originally set forth in paragraph 3 of the Office Action of February 14, 2007. In addition, the Examiner now refers to example 1, where the polymerization is conducted in two stages.

Finally, Claim 12 was rejected under 35 U.S.C. 103(a) as unpatentable over Nakagawa (EP 1 000 954 A1) in view of Nakagawa et al. The discussion above with respect to Nakagawa ('954) is incorporated by reference. The discussion with respect to Nakagawa et al. in paragraph 6 of the Office Action dated February 14, 2007 was incorporated by reference.

Claim 1 is the only independent claim at issue. Claim 1 was amended to incorporate the limitation of Claim 8. Claims 8 and 9 were cancelled. For the reasons hereinbefore discussed, Applicants respectfully submit that Claim 1 (and, thus, dependent Claims 2-7 and 10-17) is clearly not anticipated by either Nakagawa et al. or Nakagawa.

The claimed method for producing a vinyl polymer terminated with a group having a polymerizable carbon-carbon double bond involves two steps. The first step is obtaining a vinyl polymer by an atom transfer radical polymerization. The second step is incorporating a group having a polymerizable carbon-carbon double bond at the terminal of the vinyl polymer in the presence of a stable free radical.

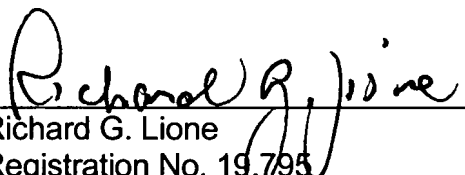
Because the process of obtaining a vinyl polymer by atom transfer radical polymerization is employed in the first step, a radical capping agent as a polymerization initiator is not used in the first step. In the claimed method, a stabilized free radical

(which happens to be a similar compound to the radical capping agent used in other known radical polymerization methods) is only added (and used) in the process of incorporating a group having a polymerizable carbon-carbon double bond at the terminal of a vinyl polymer. The stable free radical suppresses further reaction of the double bond and, thus, suppresses deterioration (an increase in viscosity and gelification) in the steps of the claimed method and, thereby, produces a stable, high quality vinyl polymer terminated with a group having a polymerizable carbon-carbon double bond. The stable free radical of the method exerts these positive effects even in a hypoxis or low oxygen atmosphere (see page 6, lines 6-24).

Thus, an essential feature of the claimed invention is not disclosed by Nakagawa. Nakagawa et al. discloses the use of a radical capping agent as a polymerization initiator at the time of monomer polymerization (see Col. 7, lines 56-60), but only discloses the method and use of radical capping for producing the main chain of a vinyl polymer before a carbon-carbon double bond is introduced, and then does not even disclose a concrete example of that method. Finally, Nakagawa et al. does not describe any method for producing a vinyl polymer with terminal carbon-carbon double bonds by obtaining the vinyl polymer by atom transfer radical polymerization and incorporating a group having a polymerizable carbon-carbon double bond at a terminal of the vinyl polymer in the presence of a stable free radical.

Applicants submit that the 35 U.S.C. § 102 rejections of amended Claim 1 should be withdrawn for the reasons clearly articulated above. As such, Applicants believe that Claims 1-7 and 10-17 should all be in allowable form.

Respectfully submitted,


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